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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/691,685

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21999 7590 12/27/2007
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EXAMINER

NGUYEN, HAU H

ART UNIT

PAPER NUMBER

2628

MAIL DATE

DELIVERY MODE

12/27/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/691,685	Applicant(s) LIN ET AL.	
	Examiner Hau H. Nguyen	Art Unit 2628	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 10 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-17 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-17 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. The response filed on October 10, 2007 has been fully considered in preparing for this Office Action.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1-13, 15-17 are rejected under 35 U.S.C. 102(e) as being anticipated by Kawase et al. (U.S. Patent No. 6,651,082).

As per claim 1, Kawase et al. teach a data processing path selection method for use in a digital data processing system, said digital data processing system comprising a central processing unit and a graphics processor, said graphics processor comprising a transformation/lighting engine (see Figs. 2-4, and Background of the Invention Section), said method comprising steps of:

receiving graphics data (receiving graphics data into the command queue 25a, col. 5, lines 22-65);

detecting a utilization rate of said central processing unit (load balance controller monitoring the CPU to determine the change in utilization of the CPU, col. 4, lines 54-64, and col. 5, lines 58-65); and

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allocating said graphics data to either said central processing unit or said transformation/lighting engine of said graphics processor according to said utilization rate of said central processing unit (decided by the load balance controller as cited above).

As per claim 2, Kawase et al. teach the graphics data are vertex data generated by an application program.

As per claim 3, as cited above, Kawase et al. teach the step of detecting the utilization rate of the CPU is performed periodically sampling the commands flow of the CPU (please see col. 5, lines 58-65).

As per claim 4, as shown in Fig. 6 and its disclosure on col. 7, lines 1-35, Kawase et al. also teach:

allocating said graphics data to said transformation/lighting engine of said graphics processor when said utilization rate of said central processing unit is equal to or greater than a threshold value; and

allocating said graphics data to said central processing unit when said utilization rate of said central processing unit is less than said threshold value.

As per claim 5, as shown in Fig. 4, Kawase et al. teach the digital data processing system is a computer system.

Claims 6, 11, and 13, which are similar in scope to claims 1 and 7, are thus rejected under the same rationale.

Claims 7 and 17, which are similar in scope to claim 2, are thus rejected under the same rationale.

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As per claim 8, Kawase et al. also teach the first threshold value is identical to the second threshold value (the first and the second threshold value are the same, col. 7, lines 32-33).

Claims 9 and 12, which are similar in scope to claim 3, are thus rejected under the same rationale.

Claim 10, which is similar in scope to claim 5, is thus rejected under the same rationale.

As per claims 15 and 16, Kawase et al. teach the path selection unit (i.e. the load balance controller) is implemented in software or hardware (col. 8, lines 25-26).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kawase et al. (U.S. Patent No. 6,651,082) in view of Kloth (U.S. Patent No. 6,549,961).

As per claim 14, Kawase et al. fails to teach the path selection is incorporated in a north bridge chip. However, this is what Kloth teaches. Kloth discloses *a crossbar switch which routes access requests from processors 22 to requested resources 28 and that crossbar switch 80 may be built into bridge 24 or may be a stand alone component of multiprocessor system 20 (...Multiprocessor system 20 may include crossbar switch 80 to route access requests from processors 22 to requested resources 28...col. 4, lines 34-44)*. Therefore, it would have been obvious to person of ordinary skill in the art at the time invention was made to modify the path

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selection unit as taught by Kawase et al. above, in combination with the method of incorporating the path selection unit in a north bridge as taught by Kloth in order to provide an integrated and reliable solution for system level design.

Response to Arguments

Applicant's arguments filed 10/10/2007 have been fully considered but they are not persuasive. In response to Applicant's arguments that the cited reference does not teach the *selective allocating said graphics data to either said central processing unit or said transformation/lighting engine of said graphics processor according to said utilization rate of said central processing unit*, the examiner disagrees. As cited above in the rejection, Kawase teaches the load balance controller 25c monitors the utilization rate of both the CPU and the graphics processor (*by monitoring the number of processed vertexes via the counter 25b and 29a, in a certain period, i.e. $\Delta count1$ and $\Delta count2$*), and allocating graphics data to either the CPU or the graphics processor based on the $\Delta count1$ and $\Delta count2$ (col. 6, lines 46-67).

Since the cited reference meets the minimum requirement of the claim limitations, rejection is maintained.

Conclusion

6. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period

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will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.


7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hau H. Nguyen whose telephone number is: 571-272-7787. The examiner can normally be reached on MON-FRI from 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kee Tung can be reached on (571) 272-7794.

The fax number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

H. Nguyen



KEE M. TUNG
SUPERVISORY PATENT EXAMINER